

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL FINANCIAL ADVISORY BOARD**

July 3, 2001

Honorable Christine Todd Whitman
Administrator
U.S. Environmental Protection Agency
Washington, D.C. 20460-0001

Dear Administrator Whitman:

We are pleased to transmit to you the Environmental Financial Advisory Board's (EFAB) latest advisory report, ***Private Sector Initiatives to Improve Efficiencies in Providing Public-Purpose Environmental Services***. This report examines some practical alternatives to established management approaches that offer cheaper, better, faster ways of providing cost-effective environmental services.

The report looks at how different tax treatments of private activity bonds issued for public purpose drinking water and wastewater facilities would lower costs and expand the construction of system upgrades and replacement. A second important area involves greater efficiencies in procurement practices. For example, in developing its Tolt River Water Filtration Plant, Seattle used a two-step procurement process to implement a design-build-operate approach. The final cost for the facility was \$101 million compared with a \$171 million estimate using a conventional design-bid-build process. In addition, the report recognizes the need for more EPA attention and public education regarding the many innovative and cost-effective public-private partnerships operating and owning public-purpose environmental projects across the nation.

In evaluating these and other cost-savings options, EFAB recognizes that the primary responsibility for meeting public sector environmental needs resides with local governments and ultimately system users. These needs, therefore, must be met in large part through increases in user fees and/or reductions in system capital, operation, and maintenance costs. The Office of Water's *Gap Analysis* estimates that a twenty percent reduction in costs is attainable by applying cost-effective management strategies and techniques. The Board has embraced this approach as one of its main themes through the creation of a Cost-Effective Environmental Management Workgroup.

This Workgroup began work last year by holding a public meeting to gather views and ideas on improving efficiencies in the wastewater and water industry, particularly with respect to private sector approaches. The enclosed report is the result of that meeting and later Board discussions. Earlier this year, the Workgroup held a second public meeting to gather information on best practices with regard to public sector approaches to providing water and wastewater

services. A complementary report on public sector initiatives is scheduled for this fall, and we expect that additional related reports on specific issue and options will follow.

We want to take this opportunity to recognize and thank the members of the Board's Cost-Effective Environmental Management Workgroup for their efforts in developing this report:

- < Michael Deane, *Workgroup Chair*, Corporate Vice President, United Water;
- < George Raftelis, Raftelis Financial Consulting, PA;
- < Keith Hinds, *Liaison to Senator Domenici*, Infrastructure Development Services, Inc.;
- < Terry Agriss, Assistant to the Chairman, ConEdison;
- < Sonia Toledo, Managing Director, Lehman Brothers;
- < Billy Turner, President, Columbus Water Works; and
- < John McCarthy, Program Director, Northeastern Rural Community Assistance Program.

On behalf of the entire Board, we would like to express appreciation for the opportunity to assist EPA in addressing the many financing issues critical to meeting the nation's environmental mandates.

Sincerely,

/s/

Robert O. Lenna
Chair

/s/

A.. Stanley Meiburg
Executive Director

Enclosure

cc: Linda Fisher, Deputy Administrator
Diane Regas, Acting Assistant Administrator, Office of Water
Michael W. S. Ryan, Deputy Chief Financial Officer
Joseph L. Dillon, Acting Comptroller

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**Private Sector Initiatives to Improve Efficiencies in Providing
Public-Purpose Environmental Services**

FINAL REPORT

This report has not been reviewed for approval by the U.S. Environmental Protection Agency; and hence, the views and opinion expressed in the report do not necessarily represent those of the Agency or any other agencies in the Federal Government.

June 2001

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PRIVATE SECTOR INITIATIVES TO IMPROVE EFFICIENCY IN PROVIDING PUBLIC PURPOSE ENVIRONMENTAL SERVICES

Introduction

The Environmental Financial Advisory Board (EFAB) has identified cost-effective environmental management as one of its central themes. In that regard, the Board's goal is to recommend practical measures that achieve greater environmental protection through increased efficiencies in the planning, design, construction, operation, and financing of public-purpose environmental infrastructure.

There is already a major cost reduction trend evident in the wastewater and water industry. Increasing competition has helped to spur improved efficiencies in many systems. With the general recognition that there would never be sufficient funding from grants and other subsidy sources to meet all environmental needs. Thus has come the realization that present and future needs must largely be met through increased user fees and capital investment paid for by system users and by reducing costs. Cost efficiencies achieved at the system and plant level can

significantly reduce operating costs and capital needs. The Office of Water's Gap Analysis estimates that a 20 percent reduction in costs is attainable from the application of cost-effective management techniques and strategies.

For the past year, The Cost-Effective Management (CEM) workgroup of EFAB has examined and debated public and private initiatives affecting the wastewater and water industry that would improve efficiency. The workgroup first considered private sector initiatives beginning with a public meeting in Washington D.C. The purpose of the meeting was twofold. First, the members wanted to gather views and ideas on cost-effective environmental management, particularly with respect to public-private partnerships in the drinking water and wastewater industries. Second, they wanted to develop EFAB recommendations to the Environmental Protection Agency (EPA). The workgroup decided first to prepare this report on private sector initiatives, which will be followed by a second, complementary report on public sector initiatives scheduled for completion this fall.

This report identifies two major issues highlighted at the meeting. A summary of findings from the meeting is attached.

Discussion

To begin with, there is general agreement that cheaper, better, faster ways of providing cost-effective environmental management are possible. The question is, of the many private sector initiatives that might be considered, where should EFAB focus?

The workgroup decided that the most worthwhile areas to focus on are procurement practices and private activity bonds. The Board has a long and rich history of recommending improvements to tax-exempt bond borrowing and to a somewhat lesser extent, procurement practices.

In the case of procurement practices, there is a clear potential for improvements in procurement practices for public purpose environmental infrastructure that would lower overall costs. In the case of private activity bonds, the workgroup believes that a different tax treatment of private activity bonds issued for public purpose drinking water and wastewater facilities would lower costs and expand construction of replacement systems as well as system upgrades.

Both areas tie closely to basic findings of the Gap Analysis that municipal borrowing is flat and must increase significantly if replacement and upgrade needs are to be met. At the same times, the Board believes that collecting and disseminating information on public-private partnerships involving the operation and ownership of environmental projects is an important service deserving of greater EPA attention. The issues are discussed briefly below, followed by several recommendations.

1. Procurement Practices

Procurement practices for providing public-purpose environmental infrastructure often have used sealed bidding where the award for construction of the facilities is made to the lowest

responsible bidder. The design phase is handled separately and not necessarily bid out, nor is management and operation, which in the case of wastewater has been performed largely by municipal employees. Many times when a bidder is considered minimally qualified, then price becomes the sole criteria for selection. Unfortunately, this process many times has resulted in the least optimal facility when considering technical quality and life-cycle costs.

Generally, federal wastewater construction grants programs awarded separate grants in three steps: Step 1 **B** Planning; Step 2 **B** Design; and Step 3 - Construction. This approach reflected and reinforced the traditional public procurement process. Treating each phase of an interrelated process as a separate and distinct step has its advantages, but does not ensure that the most cost effective facilities are built. In addition, having discrete steps for planning, design, and construction, makes assigning nonperformance of a facility to any specific entity (planner, designer, constructor, or operator) problematic. As a result, a publicly owned treatment plant owner (typically a city, county, special service district) faces lengthy litigation to determine technical and financial responsibility in the case of nonperformance of a facility.

In recent years other delivery methods have come to be recognized in the drinking water and wastewater industries as offering the real possibility of achieving significantly lower costs in the procurement process. Examples include design-build, design-build-operate (and maintain), and design-build-finance-operate. Under these alternative delivery methods two major objectives have been addressed many times. First, by combining the different phases of project development, design, construction, and operation, cost savings are achieved. The designer, constructor, and/or operator work together to create the most cost-effective facility, resulting in the lowest life-cycle costs. The process creates a dynamic whereby all parties strive for the most cost-effective long term facility. In some cases, savings approaching 35 to 40 percent of project costs have been achieved, when compared to traditional design/bid/build procurement methods. Second, accountability and, therefore liability, is assigned to one entity, the design/build team. As a result, the owner avoids some complexities in seeking relief for potential damages in the case of nonperformance.

A common characteristic of all **A**integrated project delivery methods, as they are often called, is the bundling and bidding out of at least two of the several steps in the procurement process. Competitive sealed proposals are submitted in response to a request for proposal (RFP), while the traditional method uses competitive sealed bidding. Another characteristic is that the selected offeror need not be the lowest responsible bidder; rather the selection is based on qualifications where factors other than price are considered. RFPs typically prescribe performance-based standards which detail the results or outcomes sought. The award is made to the responsible offeror whose proposal is most advantageous to the governmental entity. Another defining characteristic is that competitive sealed proposals, which are used for these delivery methods, allow for discussions with an offeror after opening of the proposal and changes to be made. Precautionary measures are adopted to treat all offerors fairly in this process.

Design/build has been commonplace in private sector construction projects for many years. Design/build and other integrated methods have several advantages that reduce costs over

traditional sealed bidding for construction proposals. The process is faster because it compresses several steps into one proposal. It tends to encourage innovation by requiring performance-based standards and allowing the designer to be the builder. Design questions and issues are reduced in the construction phase since the same firm is involved. With design/build/operate (DBO) there is an added advantage that the designer and builder of the facility will be its operator, thus helping to ensure fewer and less significant operational problems down the line.

The industry has successfully embraced several design/build models. Probably the most viable DBO model is the Seattle Tolt River project. This project involved the development of a DBO water treatment plant serving greater Seattle area. The potential savings of the DBO are estimated at 40 percent compared with the traditional design/bid/build approach. The project was so successful that Seattle recently selected the same procurement method for the Cedar water treatment plant. Other communities such as the Phoenix, Arizona; Detroit, Michigan; Fulton County Georgia; and Houston, Texas are following Seattle's lead in pursuing more cost-effective alternative delivery methods.

In addition, many communities are looking at design/build options as a way of expanding and/or upgrading their existing facilities. Under this concept, a project team bids on capital improvements as well as operations of the facility under a long-term contract. The concept is particularly attractive to communities with wastewater treatment plants needing upgrades to address evolving environmental requirements. Successful examples of such procurement methods include the water or wastewater treatment facilities in Wilmington, Delaware; Jersey City, New Jersey; Newport, Rhode Island; Franklin, Ohio; Charlotte, North Carolina; and Cranston, Rhode Island.

The Board realizes that the delivery method for public works construction can be a controversial subject. Perhaps one of the most contentious issues is the concern of municipal employees and their unions regarding job security and other related matters. EFAB certainly wants to recognize the legitimacy of municipal labor issues with respect to innovative procurement and management strategies. At the same time, it believes that these issues fall outside of its qualifications to evaluate and its charge to examine potentially more cost-effective ways of providing public-purpose environmental services. It was clear from the public meeting that many states and localities have policies that restrict or even prevent the use of alternative integrated delivery methods. Moreover, there is a perceived general lack of awareness and knowledge among many public officials involved with the procurement process of the advantages of alternative delivery methods.

Added to municipal labor issues and the perceived lack of awareness among public officials is the challenge that design/build projects may present to the (environmental) permit review process. Many agencies conduct their reviews based upon project drawings submitted at the 75-90 percent design stage. Many permitting agencies are uncomfortable reviewing plans for projects that are incomplete or already partially constructed. Design/build projects will require greater flexibility on behalf of the reviewing agency and increased coordination between the

reviewing agency and the permittee.

Unfortunately in many states, design/build alternatives have been discouraged. In fact, in some states these approaches are considered illegal. As the industry has recognized economic and accountability benefits of design/build options, state laws have changed slowly to accommodate alternative delivery methods. Many states still lack sufficient legislation to maximize design/build benefits, and need to focus on removing the impediments to developing the most efficient delivery method. EPA could be a catalyst to encourage states to consider design/build options.

2. Private Activity Bonds

EPA increasingly is concerned about the sustainability of this nation's systems for providing drinking water to our communities and effectively collecting and treating wastewater. The Agency's Gap Analysis shows that capital needs for the rehabilitation, upgrade, and replacement of existing facilities, along with new infrastructure to support continuing growth, are greater than can be met under current funding programs and trends. In addition, operating costs in aggregate are escalating beyond what is reasonable given the capital stock to which they apply. It is clear that EPA needs to consider alternative approaches to financing and managing water systems, such as private activity bonds, and also should advocate for changes to support these approaches when they are clearly in the public interest.

Since its inception, the Board has focused on the availability and efficient use of tax-exempt financing for environmental infrastructure. Its most notable work in this regard was the 1991 Board Advisory on *Incentives for Environmental Investment: Changing Behavior and Building Capital*. This advisory proposed that all bonds used to finance public-purpose environmental infrastructure, including drinking water and wastewater systems, be classified as governmental bonds and be tax-exempt regardless of the extent or type of private sector participation. Alternatively, the Board proposed excluding private activity bonds used to finance such facilities from state volume caps as a minimum alternative.

Most of this Nation's drinking water and wastewater treatment systems are financed at least in part with the proceeds of tax-exempt bonds. For facilities owned and operated by municipalities, there are few restrictions on the ability to use tax-exempt debt. For communities that choose to pursue public-private partnerships to provide these essential services to their residents, there are significant restrictions under the tax code to ensure the bonds are not deemed taxable.

Drinking water and wastewater facilities generally are exempt facilities under private activity bond regulations and therefore are eligible for tax-exempt status. However, each state has a volume cap limiting the amount of tax-exempt private activity bonds that may be issued each year. Environmental infrastructure, including water and wastewater, typically has not fared well in the competition for volume cap. If the nation is to benefit from the increased capital investment and the more efficient delivery systems that can be developed for projects with private activity bonds, public-purpose water and wastewater facilities must be excluded from

state volume caps.

The Board also notes the closely related issue of the ineligibility of private owned, public-purpose wastewater projects for Clean Water SRF funding. While this eligibility exists in the Drinking Water SRF program, there is no parallel provision for the Clean Water SRFs. Privately owned wastewater systems and their customers are thus at an economic disadvantage because they are denied the access to and the benefit of the below market loans offered by the SRFs.

These capital-related barriers to public-private partnerships, particularly with respect to providing public-purpose wastewater services, have limited their use and thus the opportunity to municipalities for achieving potentially greater cost savings.

3. Information on Public-Private Partnerships and Management and Procurement Strategies

A common theme running throughout the workgroup meeting was the need for more public education on cheaper, better, faster ways to plan, design, construction and operate public-purpose environmental systems. Most participants felt that EPA should play a strong role in the collection and dissemination of information on new and more efficient ways of providing cost-effective management. Participants believe strongly that the Agency should perform this important service. Indeed EPA already does this in other areas, such as the community-based environmental protection and clean energy programs.

Some discussion occurred on the most effective means to communicate CEM best practices, ideas, opportunities, events, and trends. Ideas included: A ~~How to~~ manual for local elected and career public officials on the evaluation of alternative management strategies and procurement practices; case studies (the U.S. Conference of Mayors was suggested as a source); technical information on developments in such fields as asset management strategies and federal tax matters; model procurement ordinances; a clearinghouse on success stories; information on funding opportunities for pilots and demonstrations; and short items on practices in other countries.

EFAB recognizes that many publications on these and related issues already exist and discourages EPA from merely duplicating information available in the marketplace. Still, the workgroup believes that there is a need for more focused and consolidated information. EPA should provide fresh documentation and analyses only where necessary and appropriate.

The Board recommends that EPA consider the following

1. Procurement Practices:

- At the minimum, EPA should educate communities about successful and more efficient ways to deliver environmental services.

-- EPA also should consider taking a more pro-active position by issuing a policy statement supporting broader forms of service delivery and competition where it is judged most cost effective in terms of meeting environmental goals. A more active posture could extend to encouraging State Revolving Funds to provide incentives for DB and DBO pilots.

2. Private Activity Bonds:

-- EPA should call publically for private activity bond reform to support urgent environmental infrastructure needs.

-- EPA should support the exemption of private activity bonds from state volume caps, whose proceeds finance public-purpose drinking water and wastewater facilities. EPA is in an excellent position to call for coordination of tax policy with environmental policy and, in fact, environmental requirements.

3. Information Services:

-- EPA should create an information service on public-private partnerships for environmental services as part of the Environmental Finance Program website. The site should include extensive [Ahotlinks@](#)to related websites within and outside government. It could gradually be expanded to include an interactive service and other advanced features. A sample menu of the initial site is attached.

Attachments

Summary of findings from March 6, 2000 meeting
Sample website menu for P3 information

**ENVIRONMENTAL FINANCIAL ADVISORY BOARD
Cost-Effective Environmental Management Workgroup**

SUMMARY OF March 6, 2000 PUBLIC MEETING

The Environmental Financial Advisory Board's (EFAB) Cost-Effective Environmental Management (CEM) Workgroup Public Meeting was convened by John Wise, EFAB's Designated Federal Official at 9:10am on March 6, 2000, at the National Press Club in Washington, DC. Michael Deane, CEM Chairman introduced the panels for the meeting.

In accordance with the provisions of Public Law 92-463, the meeting was open to the public from 9:00am - 4:30pm.

Workgroup members present:

Michael Deane, Chairman
United Water

Keith Hinds
Infrastructure Development Services, Inc.

Terry Agriss
ConEdison

George Raftelis
Raftelis Financial Consulting, PA

Invited Panelists present:

Chibby Alloway, USFilter Operating Services

Stephen Howard, Lehman Brothers

Eric Petersen, Hawkins, Delafield & Wood

James Smith, Environmental Finance
Consultant

Steve Allbee, Environmental Protection Agency

Roy Anderson, City of Newport, RI

John Joyner, United Water

Billy Turner, Columbus Water

EPA Staff present:

John Wise, Designated Federal Official for EFAB
George Ames, Team Leader, Environmental Finance Team
Vanessa Bowie, Lead Staff Official for CEM

The purpose of the public meeting was to gather views and information on cost-effective environmental management, particularly public-private partnerships and contract management for drinking and wastewater and what EFAB should do to assist EPA in this regard. Two panels were established to ensure a variety of perspectives.

Discussions throughout the meeting revealed four types of impediments: (1) legislative and regulatory; (2) financial; (3) management and procurement; and (4) communications.

Legislative and Regulatory

- \$ There is a lot of legislation affecting public private partnerships and the industry, but towns from 3,000 - 5,000 people B communities that need our help for quality of water and drinking water.
- \$ Regulations becoming very onerous; others, however, feel that strong sustained enforcement is essential.
- \$ EPA's enforcement policy for municipalities is vague.
- \$ Water is not priced to encourage capital development.
- \$ Pumping and distribution costs are the drivers for water not treatment in many/most cases.

Preliminary Findings

- \$ Water must be priced so that innovation can occur. (not advocating more regulation)
- \$ Regarding municipal enforcement, while the workgroup does not necessarily agree with the several comments on the lack of a clear enforcement policy, nonetheless, there seems to be a strong concern that uncertainty in the regulated community over enforcement policy is an important factor which the workgroup suggests be examined more closely by the agency.

Financial

- \$ Significant costs savings can be achieved by many publicly and privately-owned water and wastewater systems through the adoption of more efficient management,

procurement, and operational strategies.

- \$ Volume cap restrictions affecting the issuance of private activity bonds for wastewater facilities causing problems in some states.
- \$ Many public- purpose environmental facilities are privately owned, yet they cannot take advantage of tax-exempt bonds and pass the savings in debt service along to their rate payers.
- \$ Projects requiring bond caps do not meet 9713.
- \$ Lack of a sales tax exemption for contractors providing public services.
- \$ In terms of investor interest in drinking water, strong demand for highly structured, nonrecourse transactions with risk allocation clearly spelled out. However this refers to the largest best credits; what about undercapitalized companies?
- \$ Tax exempt project financing (project debt/bond caps). Private activity bond caps are a problem. Should EPA support growth in the bond caps? Are there any studies showing where the caps are actually denying \$s to specific projects?
- \$ Affordability **B** not everyone needs help, but some absolutely do; some people can not do this without some sort of financial partnership.
- \$ We make it extremely difficult for public and private money to work together, but it can be done.
- \$ Don't let the public \$s benefits flow to the private sector excessively.

Preliminary Findings

- \$ What can be done to make investments more cost-effective; what can be done to increase capital investments? What can be done at the federal level? - these were presented as general questions EFAB should address.
- \$ EPA should support an exemption from the volume cap for wastewater treatment facilities.
- \$ The tax code governing the tax exemption of bonds should define such bonds in terms of the public purposes served, not by the ownership of the funded facilities. The true test should be who is served.
- \$ Broaden the availability of tax-exempt financing especially for mandated facilities.

Management and Procurement

- \$ Procurement laws are critical (how you evaluate procurement).
- \$ Procuring plants on a low bid basis does not always produce a cost-effective situation.
- \$ The design is not bid, the management is not bid, only construction is bid.
- \$ Suggest that the planning process/consent decree mentality is directed to a facility plan. Focus on administrative practices related to production of a facility plan.
- \$ SRFs now moving to giving weight to state procurement policies.
- \$ What could be done to make the whole investment more cost-effective? What could be done to bring in more capital (cheaper capital).
- \$ A major consolidation trend affecting drinking water utilities especially is underway.
- \$ Competition & consolidation **B** competition should be aggressive level playing field. What does EPA do to support this?
- \$ Current environment - how much \$s should we spend as one company to shape these procurements, only to end up in a low bid environment? e.g., procurement steps, evaluation criteria, political forces of city councils.
- \$ There is a need for performance based specifications for design-build-operate. The emphasis is on broadened nontraditional competition based on performance standards all the way through the process from design to operation. In some cases (New York) state law will have to be changed; other states (Georgia) it is not necessary.
- \$ Considerable interest in getting EPA to be more practice in promoting broader forms of competition for municipal infrastructure. The agency has traditionally been neutral. One suggestion is to use the SRF to provide incentives to promote DBO as pilots.
- \$ Traditional financing is linked to traditional methods of procurement. If this link is broken, it opens the way to new methods of project delivery.
- \$ Interaction suggested with conference of mayors - have a lot of case studies.
- \$ Is there a model service contract? What can/should EPA do in this area?

Preliminary Findings

- \$ There is a need for a real clearinghouse for procurement laws. Need to help city councils. Survey state regulations structures across the country to determine needs in changing procurement. Reference materials would be helpful by a group that is credible, unbiased. Need a step-by-step procedure or checklist (EPA would be appropriate level).

- \$ Pay attention to ICMA & political organizations.
- \$ Need a new form of competition in water and wastewater.
- \$ EPA work with states to encourage planning competition.

Communication

- \$ Projects highly structured/customized to local situations
- \$ Cranston, RI - \$8 million for what was to be a \$50 million project. Had to develop a procurement ordinance that allowed competitive negotiation.
- \$ Good local to local communications going on. Peer match aspects of the relationship was of value in the Cranston case.
- \$ Would any kind of how-to-manual for public officials be helpful? Not a clear response but there was support for case studies.

Preliminary Findings

- \$ EPA has to standardize their own communications to help educate.
- \$ Need some special case studies to illustrate the value of new approaches. EFAB case studies on CEM approaches could help. ICMA help needed.
- \$ Availability of information a real need (objective info) something balanced from both sides; pro and con.
- \$ Better effort would be directed to getting EPA to adopt a policy statement encouraging design/planning competition. A policy statement is important.

Other

- \$ Operations & maintenance up 5.9% each year. Capital debt varies.
- \$ What drives the numbers? O+M+R costs
60% - O&M
40% - Capital
- \$ Wastewater - debt service growing and need to spend more.
- \$ Federal spending on infrastructure has been flat for 30 years. (we are at the lowest point in spending on water since the 1060s).

- \$ More and more communities are having affordability problems.
- \$ Raises interesting questions regarding user fees.
- \$ Solutions: we spend money in a poor manner (need to maintain systems on an going basis) more pay-as-you-go, smaller more frequent financings.
- \$ Asset management - optimization process (used by utilities).
- \$ Capital spending is not adequate (**2** of what t should be).
- \$ New debt is flat. Why?
- \$ Sustainability of systems are at risk and affordability is a growing problem.
- \$ Canada - 100 year budget is part of asset management concept.
- \$ Value vs need **B** infrastructure system has an economic value to the economy.
- \$ New GASB Rule **B** all public financial statements must include the value of assets.
- \$ Marketplace problems - private companies underestimate how quickly the public sector people would move to defend themselves. Underestimated how large engineering firms stand with public sector **B** they=ve had a bigger impact than we thought.
- \$ Some large companies who have made huge investments must win new jobs (lots of competition).
- \$ Private companies can be more capital efficient (fast track engineering and construction).
- \$ public monies; private implementation.
- \$ comprehensive asset management program over 20 years.
- \$ They are becoming more selective in where to compete **B** look for a political/financial/other driver (technology) different to do small projects **B** they do have a \$ threshold.
- \$ CSO projects: long-term control strategy is next.
- \$ Be proud of what we have done. We are ahead of the Brits on CSOs.
- \$ More research needed in many areas.
- \$ How does a city address water quality issues?

- \$ How have cities improved their operations?
- \$ Columbus, Georgia rates low, service improved, employment lower.
- \$ EPA keeps hammering at enforcement (this is a necessity for the private sector).
- \$ Large companies need large projects.
- \$ EPA should deploy a firm, clear, fair, and consistent municipal enforcement strategy.

Preliminary Findings

- \$ EPA could: (1) enforce regulations; (2) get involved in up front procurement planning to help municipalities in this process; (3) make federal funding available; (4) get out of the way and let them fix the problem; (5) change CSO strategy.
- \$ Need flexibility from EPA on CSO projects.
- \$ EPA could help make public funding available to the community for use by the private sector.
- \$ Need better educated local negotiators.